



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2004AK25B

Title: Monitoring Thermokarst Evolution at Caribou-Poker Creeks Research Watershed (Year 2)

Project Type: Research

Focus Category: Hydrology

Keywords: thermokarst, erosion, sedimentation, grain size distribution, suspended sediment, mapping

Start Date: 03/01/2005

End Date: 02/28/2006

Federal Funds: \$36,550

Non-Federal Matching Funds: \$13,287

Congressional District: AK

Principal Investigator:
Horacio Toniolo

Abstract

The temporal and spatial evolution of a rapidly developing thermokarst located in the Caribou-Poker Creeks Research Watershed has been studied since Spring 2004. Initial results from this ongoing project indicate lateral and longitudinal displacements on the order of 1 m. Suspended sediment concentration and detailed topographic surveys show that erosion in the soil matrix and sedimentation in the terrain depressions are active processes in the area. The goal of this proposed project is to continue thermokarst monitoring. This goal will be accomplished by continuing field and laboratory work. Specifically, water sampling, discharge measurements, and topographic surveys will be performed in the next year. Additionally, soil temperature profiles will be measured along the thermokarst sides. Suspended sediment concentrations and grain size distributions will be determined at WERC laboratories.